SOLAR PHOTOVOLTAIC (PV) INSTALLATION
BALTIMORE COUNTY REQUIREMENTS

- Effective September 1, 2020 Baltimore County adopted the 2020 National Electric Code.
- Effective July 1, 2018 Baltimore County adopted the 2018 edition of NFPA 1 Section 11.12 concerning PV system installations.
- All electrical work is to be performed under the supervision of the licensed electrical contractor. This includes the bonding of the support structure, setting of the modules, microinverters (if used), all wiring, equipment, grounding, bonding, connections, terminations, boxes, disconnects, fusing, and interconnections with the utility.
- For PV systems up to 10 KW the licensed electrical contractor is responsible for the entire installation and only an electrical permit will be required unless the array is part of a freestanding structure.
- For PV systems installed on a roof having a pitch of less than 4/12 an engineering certificate is required for the PV support structure.
- For PV systems larger than 10KW or for freestanding PV support structures a separate Building permit must be secured for the installation of the PV support structure.
- The licensed electrical contractor must have a qualified employee on the site through the entire installation process.
- A qualified employee of the licensed contractor must be present at each inspection. If the Rapid Shutdown System is included as part of the NRTL seal on the inverter, no technician is required to meet the inspector unless the inspector requires their presence.

All PV circuits permitted to be run inside a building must be installed in a raceway or in a metal jacketed cable. This circuit must be clearly identified wherever accessible.

- Photographs, where required, must be clear and discernable as to what the photograph represents. In some cases macro photography may be required to achieve the desired image. (Most digital cameras have this setting)
- All wiring must be kept off of the roof surface and secured at such intervals that maintain a workmanlike quality. Plastic ties must be sunlight resistant.
- All labeling, marking, and identifying where required by the NEC must be, at a minimum, equal in nature to the labeling on the wiring method, cabinet, equipment, etc., must be able to withstand the conditions encountered, and must be in compliance with the 2018 edition of the NFPA 1 Section 11.12

- Any changes, modifications, additional information, or corrections required by the inspector must be completed in a manner and time frame designated by the inspector.

- All checklist requirements for the final inspection must be complete and presented to the inspector at the final inspection. The items must be checked by the qualified employee of the licensed electrical contractor. The inspector will check to verify that all information is provided and accurate. This completed list will become part of the contractor's certification.

- Any changes, modifications, additional information, or corrections required by the inspector must be completed before the installation can be deemed finalized.

- The contractor's completed certification must be provided at final inspection. The certification must be signed by the master electrician (and the structural support installer if applicable).

2018 EDITION NFPA 1 REQUIREMENTS

1. Where a single 4 feet wide clear pathway is installed in the center third of the roof length and is not located over a window or door opening and with no overhead obstructions such as tree limbs, wires, or signs, the single pathway shall be allowed in lieu of the two required pathways on each end of the array.
2. A minimum 3 feet clear space shall be provided around all solid fuel burning chimneys for emergency access. Chimneys used for gas or oil venting are considered to be vents and are permitted to be in the pathway.
3. All wiring shall be allowed to cross pathways and shall be designed to take the shortest path from the array to the DC combiner box, be clearly identified, and be protected in rigid metal conduits, schedule 80 PVC, or EMT. All raceways must be kept as close as possible to the roof surface so as not to present a tripping hazard while still permitting water to flow underneath the raceway. Chimney vents and plumbing vents within a pathway will not affect a measurement of setback.
4. Where there is more than one pathway on a roof surface, only one of the roof access points must be in a location where fire department ladders are not required to be placed over the building openings such as windows or doors. Where there is a single pathway in the center third of the roof length, the access point shall not be located over a door or roof opening. Whether single or multiple pathways, the access point must be free of obstructions such as tree limbs, wires, or signs